REMARKS

The present Amendment amends claims 1-4, 6, 8, 10-16 and 18-23, leaves claims 5, 7, 9, 17 and 24 and adds new claims 25-32. Therefore, the present application has pending claims 1-32.

Applicants note that the Examiner did not consider the Information Disclosure Statement filed on August 31, 2001 along with the present application. Attached herewith is a Form PTO-1449 providing a listing of the references submitted by the August 31, 2001 Information Disclosure Statement. An indication that the references listed therein have been considered is respectfully requested in the forthcoming Office Action.

Claims 1-24 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as their invention. Various amendments were made throughout claims 1-24 to overcome the 35 USC §112, second paragraph rejection. Therefore, this rejection is overcome and should be withdrawn.

Claims 1-24 stand rejected under 35 USC §103(a) as being unpatentable over Doing (U.S. Patent No. 6,438,671) in view of Maergner (U.S. Patent No. 6,651,125). This rejection is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1-24 are not taught or suggested by Doing or Maergner whether taken individually or in combination with each other as suggested by the Examiner. Therefore, reconsideration and withdrawal of this rejections is respectfully requested.

The present invention relates to a virtual computer system having a hypervisor which includes a load monitor for monitoring load conditions of virtual computers, a reallocation section for dynamically changing allocation of physical resources to the virtual computers and a controller for searching physical resource allocation to the virtual computers based on load conditions obtained by the load monitor and for demanding reallocation to the reallocation section.

According to the present invention the load conditions of virtual computers are, for example, an occupation rate of CPUs in each of the virtual computers, a length of queue for execution of process, frequency of paging or swap in main memory and response time of a process of an application program in each of the virtual computers, and allocation of the physical resources to the virtual computers is, for example, CPU allocation ratios, the number of CPUs, main memory allocation and swap areas of Disks shown in Fig. 22.

The above described features of the present invention as recited in the claims are not taught or suggested by any of the references of record, particularly Doing and Maergner, whether taken individually or in combination with each other as suggested by the Examiner.

The features of the present invention as recited in the claims are not taught or suggested by Doing.

Doing discloses a computer system including logical partitions for which a processor provides hardware support. In the system taught by Doing a hypervisor regulates the logical partitions and the processor assigns effective addresses to each of the logical partitions. However, Doing does not disclose the functions of a

hypervisor as recited in the claims including, for example, monitoring load conditions of virtual computers, dynamically allocating physical resources of the virtual computers, and dynamically conducting physical resource reallocation to the virtual computers according to the monitored conditions.

Thus, Doing fails to teach or suggest a hypervisor which includes a load monitor for monitoring load conditions of the virtual computers from an occupation rate of the CPUs in each of the virtual computers and/or a length of queue for execution of process in each of the virtual computers as recited in the claims.

Further, Doing fails to teach or suggest a hypervisor which includes a reallocation section for dynamically changing allocation of physical resources to said plurality of virtual computers as recited in the claims.

Still further, Doing fails to teach or suggest a hypervisor which includes a controller for searching physical resource allocation to the virtual computers based on load conditions obtained by the load monitor and for demanding reallocation to the reallocation section as recited in the claims.

Therefore, Doing does not teach or suggest the features of the present invention as recited in the claims.

The above noted deficiencies of Doing are not supplied by any of the other references of record. Particularly the above noted deficiencies are not supplied by Maergner. Therefore combining the teachings of Doing with the teachings of Maergner still fails to teach or suggest the features of the present invention as recited in the claims.

Maergner discloses a computing environment which is provided by a plurality of logical partitions and a LP manager shown in Fig. 1A or Fig. 1B. In Maergner a workload manager 116 manages the workload within a partition and among partitions. The workload manager 116 of Maergner is entirely different from the hypervisor of the present invention as recited in the claims. According to the present invention the loads of the virtual computers are monitored and the physical resources are reallocated as needed based on the monitored conditions.

The workload manager of Maergner is merely one of functions of an Operating System and is drawn within an OS area as shown in Fig. 1A or Fig 1B thereof. In Maergner It is assumed that the target which is managed by the workload manager, is for example, the response time, priority, CPU performance of jobs running on the OS, etc. Thus, Maergner does not disclose a system or a hypervisor which allocates physical resources to logical partitions in accordance with the result of measuring load conditions of each logical partition as per the present invention as recited in the claims.

The unique advantages of the present invention as recited in the claims is that management costs are reduced and a certain level of performance is guaranteed since physical resources can be increased or decreased automatically according to a load of each LPAR. Accordingly, the present invention as recited in the claims effectively and efficiently uses the physical resources of the computer system to support certain performance characteristics of the virtual computer system. The unique advantages of the present invention as recited in the claims are not possible in Maergner.

Thus, Maergner fails to teach or suggest a hypervisor which includes a load monitor for monitoring load conditions of the virtual computers from an occupation rate of the CPUs in each of the virtual computers and/or a length of queue for execution of process in each of the virtual computers as recited in the claims.

Further, Maergner fails to teach or suggest a hypervisor which includes a reallocation section for dynamically changing allocation of physical resources to said plurality of virtual computers as recited in the claims.

Still further, Maergner fails to teach or suggest a hypervisor which includes a controller for searching physical resource allocation to the virtual computers based on load conditions obtained by the load monitor and for demanding reallocation to the reallocation section as recited in the claims.

Therefore, Maergner does not teach or suggest the features of the present invention as recited in the claims.

Since both Doing and Maergner are deficient of various features of the present invention as recited in the claims, even if they are combined in the manner as suggested by the Examiner in the Office Action the combination would still be deficient of the features of the present invention as recited in the claims. Thus, the combination of Doing and Maergner fails to teach or suggest the features of the present invention as recited in the claims. Therefore, reconsideration and withdrawal of the 35 USC §103(a) rejection of claims 1-24 as being unpatentable over Doing in view of Maergner is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references

utilized in the rejection of claims 1-24.

As indicated above new claims 25-32 were added. New claims 25-32 depend from claims 8 and 13 and therefore recited many of the same features shown above to not be taught or suggested by Doing and Maergner. Therefore, the same arguments present above with respect to claims 1-24 apply as well to the potential use of Doing or Maergner to reject claims 25-32.

In view of the foregoing amendments and remarks, Applicants submit that claims 1-24 are in condition for allowance. Accordingly, early allowance of claims 1-24 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (520.40578X00).

Respectfully submitted,

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